

# Operation theatre (OR)



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# What Is A “Operation Theatre”?

**Theatre** is a facility within a hospital where surgical operations are carried out in a sterile environment. Operation theatre (OR) is different from other rooms in the hospital because :

- The Environment is controlled
- OR Temperature ranges from 21 °C to 24 °C and relative humidity from 20% to 60%.
- OR is maintained at  $\geq 15$  air changes per hour (ACH) with 20% fresh air.
- All re-circulated or fresh air is filtered through High-Efficiency particulate air (HEPA) filters that are maintained and replaced as per the manufacturer recommendations.



# AIM

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- Provide a sterile field for a safe surgery
  - Prevention of All HAIS (not only SSI)
  - Prevention of occupational hazards

# Layout of OR

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## ■ Outer Zone

(Main Access corridor, transfer area ,supervisor office or control station ,documentation area,preoperative patient holding,area(s),the changing facilities).

## Clean/Semi restricted zone

(clean corridor, sterile and equipment sterile store, anaesthesia and recovery room ,rest areas)

## Restricted zone

(scrub sinks, operation room)

# Ventilation

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- Maintain Positive Pressure ventilation in the operating room
- Maintain a minimum of 15 air changes per hour with at least 20% fresh air
- Keep operating room doors closed except as needed for passage of equipment personnel and the patient.

# Cleaning and disinfection of Environmental surfaces

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ORs should be cleaned:

- Before the first case of the day, using lint free cloth moistened with disinfectant.
- In between cases, linen, trash and infectious waste removal, wiping OR overhead light reflectors and OR mattress and equipment with a cleaner/disinfectant.
- Terminal clean after the last case of the day using disinfectant and microfiber cloths.



# Cleaning and disinfection of Environmental surfaces

When visible soiling or contamination with blood or other body fluids of surfaces or equipment occurs ,use an approved disinfectant to clean the affected area before the next operation or after each surgical procedure and at least daily .

**Do not** CLOSE the operation room after contaminated or dirty operation

# Cleaning Spills of Blood and Body Fluids

## **Large blood spills**

- Isolate spill area
- Wear protective equipment (gown- Gloves- face shield )
- Cover the spill with paper towels
- Pour Haz Tab solution or 100 ml of sodium hypochlorite with 900 ml of water and allow 3-5 minutes contact time
- Place all contaminated items into yellow plastic bag
- Wipe up using paper towels
- Decontaminated areas should then be cleaned thoroughly with warm water and neutral detergent

# Cleaning Spills of Blood and Body Fluids

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- Follow this decontamination process with a terminal disinfection .
- Discard contaminated materials (absorbent toweling ,cleaning cloths,disposable gloves and plastic apron) all in Yellow Container
- Wash hands

# Cleaning Spills of Blood and Body Fluids





# At the end of the day in operation theatre

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- Clean all the table tops sinks , door handles with detergent /low level of disinfectant eg

medisol,hama surf,ssdd disinfectants

- Clean the floors with disinfectants eg :sodium hypochlorite then use detergents mixed with warm water
- Finally mop with disinfectant
- All cleaning Equipment (mops,buckets) should be washing .mops should be disinfected with chlorine (0.5%) rinses and dry

# Sterilization of surgical instruments

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Rinse all instruments and soaked in Pre-klenz and transported to **CSSD** covered and shall be moved in covered carts or closed containers that prevent spill or aerosol of infectious fluids .These items shall be received in dirty side OF **CSSD**

# Hand /forearm antisepsis for surgical team

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وزارة الصحة  
Ministry of Health

- Keep nails short and do not wear artificial nails
- Perform preoperative surgical scrub for at least 2 to 5 minutes using an appropriate antiseptic
- Dry hands with sterile towels and don sterile Gown and Gloves

# Surgical attire and drapes

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- Staff must change into theatre clothes and shoes before entering the clean /semi restricted area
- The operating theatre (restricted zone) should be restricted to just the personnel involved in the actual operation.
- DO not allow sterile personnel to reach across unsterile items, or vice versa.



# Surgical attire and drapes

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## Wear full PPE

Surgical mask that fully covers the mouth and nose- Head cover- Sterile gloves- Impermeable Sterile gowns

Change scrub suits when visibly soiled or contaminated with blood or body fluids



# Surgical Scrub

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# NEEDLE STICK INJURY

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- Wash with water and soap
- Do not squeeze
- Inform the head of( OT).
- Inform IPC Department.

## Post injury / exposure protocol

- ✓ Don't PANIC !!!
- ✓ Don't squeeze the injured site
- ✓ Wash with soap and water immediately
- ✓ Report to the casualty & provide,
  - (i) Full history of injury or exposure
  - (ii) History of Hepatitis B immunization
  - (iii) Blood for testing





# Blood /Body Fluids Exposures

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Should an exposure occur:

- For face/eye exposure: Rinse with water for about 15 minutes



# What can we do to prevent these exposure injuries

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- Use Personal Protective Equipment (PPE)
- Dispose of sharp in sharps container immediately after use
- Utilize safe zone during each surgical procedure
- Account for all sharps used
- When emptying suction canisters ,always pour carefully and wear eye/face protection

# PREVENTION OF SSI

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- Preparation of patient, SHOWER with antiseptic soap
- Stop Tobacco use
- Hand antisepsis for surgical team members
- MANAGEMENT OF INFECTED OR COLONIZED SURGICAL PERSONNEL
- Remove the hair from operational site immediately before the operation  
Do not shave
- Antimicrobial prophylaxis
- Asepsis and surgical technique
- Control glucose in patients with DM

# ASA

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American Society of Anaesthesiologists physical status clas



**The ASA score** is a subjective assessment of a patient's overall health that is based on five classes (I to V).

- I. Patient is a completely healthy fit patient.
- II. Patient has mild systemic disease.
- III. Patient has severe systemic disease that is not incapacitating.
- IV. Patient has incapacitating disease that is a constant threat to life.
- V. A moribund patient who is not expected to live 24 hour with or without surgery

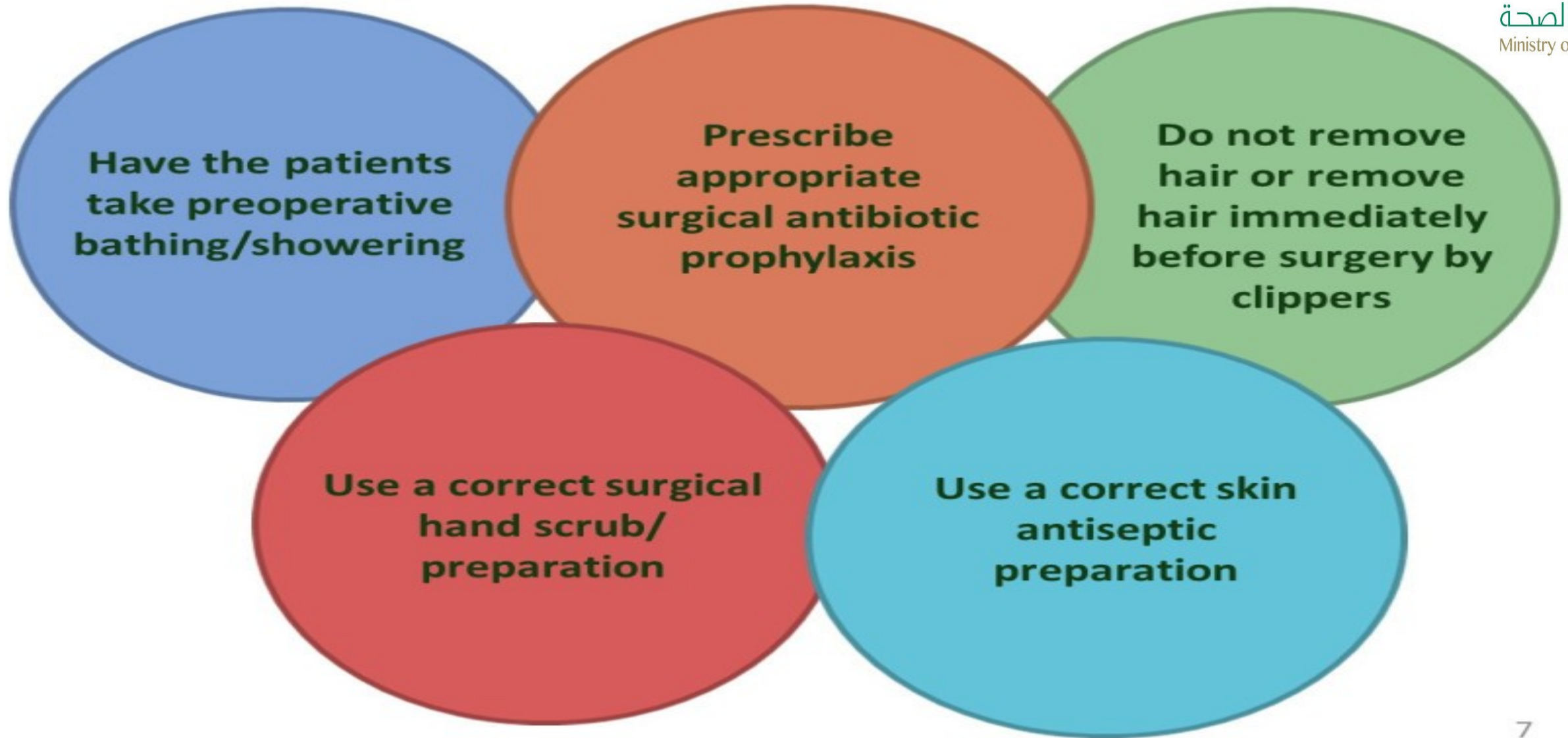


# PREVENTION OF SSI

- Prepare skin with appropriate agent (Bethadine or Hexamide solution)
- The surgeon and scrub nurse should have short nails
- The surgeon and scrub nurse should follow the scrub hands step within 3-5 minutes
- Positive pressure ventilation in OR with 15 air changes /hr and keep OR doors closed
- Use sterile instruments and sterile
- Sterile dressing to be kept for 24-







# MANAGEMENT OF PATIENT IN ISOLATION PRECAUTIONS IN THE OR

## Precautions for Managing Patients on Air borne Precautions in the OR:

- In patients with active TB ,only emergency procedures are recommended
- Elective procedure on patients who have TB should be postponed until the patient is no longer infectious
- For operating rooms ,the doors to the operating room should be closed and traffic into and out of the room should be made to perform the procedure at a time .when other patients are not present in the operative suite and when the minimum number of personnel are present (at the end of the day)

# Precautions for Managing Patients on Air borne Precautions in the OR:

- OR personnel should wear the N95 masks throughout the procedure
- Let the patient recover in the operating room, if the patient condition is not stable and the treating doctor asking for that
- Follow cleaning and disinfection process of the room and equipment same that for terminal cleaning for negative isolation rooms

# PRECAUTIONS FOR MANAGING PATIENTS ON **DROPLET** PRECAUTIONS

- Elective procedures on patients who are under droplet precaution preferably to be delayed until no longer infectious or schedule the procedure at the end of the day
- Initiate and maintain droplet precautions when there is suspected or confirmed diagnosis of an infectious disease that is transmitted by the droplet route
- Wear asurgical mask within 1.2 meters of the patient
- Clean and disinfect the operating room and equipment used after the surgical procedure

# PRECAUTIONS FOR MANAGING PATIENTS ON **contact** PRECAUTION

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- Schedule elective procedure preferably at the end of the
- Clean and disinfect the operating room and equipment used after the surgical procedure based on terminal cleaning for patients with contact precautions

Thank  
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